

Review Form 3

Journal Name:	Journal of Complementary and Alternative Medical Research
Manuscript Number:	Ms_JOCAMR_121061
Title of the Manuscript:	MACHINE LEARNING ANALYSIS OF HEALTH AND LIFESTYLE FACTORS IN UNDERSTANDING DIABETES
Type of the Article	Review Article

General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.		
Is the title of the article suitable? (If not please suggest an alternative title)	Yes	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract provided is comprehensive, but it can be refined to improve clarity and focus.	
Are subsections and structure of the manuscript appropriate?	Yes but consider following points <ul style="list-style-type: none"> - Ensure each section flows logically into the next. - Use subheadings to break down large sections into manageable parts. - Include figures and tables where appropriate to illustrate key points. - Make sure all citations are complete and correctly formatted. 	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	<p>This manuscript is scientifically robust and technically sound due to its rigorous application of machine learning algorithms to a comprehensive dataset encompassing a wide range of health and lifestyle variables.</p> <p>The study's methodology is meticulously detailed, including thorough data preprocessing, model selection, and evaluation metrics, ensuring reproducibility and transparency.</p> <p>The analysis not only highlights the performance of different machine learning models but also identifies key risk factors for diabetes, providing valuable insights into the disease's underlying contributors. Moreover, the comparison of findings with existing literature demonstrates the study's relevance and contribution to the field of diabetes research.</p>	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. =	References appear to be both sufficient and recent. If possible add some more references	

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<p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>few minor revisions could enhance clarity, coherence, and readability.</p> <ul style="list-style-type: none">- Lack of rationale for selecting the specific machine learning models used in the study.- Why these models were chosen over others, (transparency and justification of the model selection process required)- Insufficient detail on handling data imbalance. While it mentions combining prediabetic and diabetic classes, it does not elaborate on additional techniques such as Synthetic Minority Over-sampling Technique (SMOTE) or class weighting, which are crucial for addressing data imbalance and improving model performance.- The feature engineering process is inadequately explained.- Enough details on how features were created, selected, and transformed required. <p>Results section</p> <ul style="list-style-type: none">- Limited evaluation metrics, lacking comprehensive measures such as ROC-AUC scores. Include a broader range of metrics which provide a more complete assessment of model performance.- No discussion on the trade-offs between different evaluation metrics (e.g., precision vs. Recall). Understanding these trade-offs is essential for practical application and decision-making.- Not include visual aids like ROC curves, feature importance plots, or confusion matrices, which are important for interpreting and understanding model performance. Visualizations enhance the clarity and accessibility of the findings.- Demographic biases, are not addressed.- discuss how these biases were identified and mitigated, which is crucial for assessing the validity and generalizability of the findings.- There is no comparison with traditional statistical methods- Such a comparison would provide a clearer context for the study's contributions and its place within existing research.- The practical relevance of the study is also limited by the lack of discussion on the impact on clinical practice.- The article does not explore how the findings can be translated into clinical settings to improve diabetes prediction and management, which is essential for demonstrating the study's real-world applicability.	
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	<ul style="list-style-type: none">- insufficient suggestions for future research.- Not offer guidance on exploring additional machine learning techniques or using longitudinal data, which would help steer further studies in the field.- This omission limits the article's contribution to ongoing research and development in diabetes prediction using machine learning.	
Optional/General comments		

PART 2:

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

Name:	Yogeshwary M. Bhongade
Department, University & Country	Rashtrasant Tukadoji Maharaj Nagpur University, India